MARINE REVIEW.

VOL. VII. CLEVELAND, OHIO, THURSDAY, MARCH 16, 1893. No. 11.

Appointments of Masters and Engineers.

Lake Erie Transportation Company, Toledo, O.: Steamers—City of Toledo, Capt. Edward McNally, Engineer——; S. C. Reynolds, Capt. F. W. Wetmore; Engineer George Butler; J. C. Gault, Capt. W. A. Cottrell, Engineer John Bustead; Russell Sage, Capt. Henry Root, Engineer J. H. Miller.

Durand, Homer, Toledo, O.: Steamer—St. Paul, Capt. Homer Durand, Engineer P. C. Ramsoin. Schooners—P. B. Locke, Capt. Y. A. Moore; Anna P. Grover, Capt. G. L. Durand.

Ogdensburg Transportation Company: Steamers—A. W. Frost, Capt. David Murphy; Engineer James Chestnut; W. A. Haskell, Capt. W. H. Williams, Engineer A. D. Houghton; Gov. Smith, Capt. W. S. Shay, Engineer James Turnbull; J. R. Langdon, Capt. Harvey Brown, Engineer John L. Phillips; A. McVittie, Capt. William Rollo, Engineer Morris Gore; F. H. Prince, Capt. D. A. Kiah, Engineer D. G. Costello; H. R. James, Capt. J. Owen, Engineer Robert Chestnut, Jr.; W. J. Averill, Capt. W. D. Wait, Engineer Harris Higgins.

McBrier, James, Erie, Pa.: Steamers—Uganda, Capt. C. H. Wilson, Engineer William Meade; Nyanza, Capt. F. D. Welcome, Engineer J. R. Blanchette; Fedora, Capt. F. A. Fick, Engineer John Stevenson.

Ashley & Dustin, Detroit, Mich.: Steamers—Frank E. Kirby, Capt. A. J. Fox, Engineer Edward Perry; Wyandotte, Capt. John Desana, Engineer Julius Holder.

Whitney, D. C., Detroit, Mich.: Steamers—Merida, Capt. W. H. Hutchison, Engineer James Morton; Tampa, Capt. John Ivers, Engineer Charles Murett; Mecosta, Capt. John Leonard, Engineer George Francombe; D. C. Whitney, Capt. David Critchet, Engineer J. Lacy; Lansing, Capt. C. J. Ennis, Engineer Joe Coveyoau; Nipigon, Capt. A. C. May, Engineer Edward Egan. Schooners—Ashland, not yet appointed; Wayne, Capt. Benjamin Cole; Melbourne, Capt. George Cooper.

Close, G. W., Berlin Heights. O.: Steamer—C. W. Elphicke, Capt. F. F. Rae, Engineer John Smith.

Recor, E. C., St. Clair, Mich.: Steamers—F. W. Fletcher, Capt. Moore, Engineer Wm. Brake; Mark Hopkins, Capt. S. D. Lyon, Engineer John H. Maybury. Schooner—Porter, O. J. Soleau.

American Steel Barge Company, West Superior, Wis.: Steamers—Colgate Hoyt, Capt. W. H. Kilby, Engineer G. Newton; A. D. Thomson, Capt. G. Holdridge, Engineer E. Sampson; E. B. Bartlett, Capt. G. E. Atkinson, Engineer A. Edgar; Thomas Wilson, Capt. A. P. Chambers, Engineer G. E. Blauvelt; Samuel Mather, Capt. John H. Smith, Engineer I. Marshall; J. B. Colgate, Capt. R. Smith, Engineer A. Cornell.

Alger, Smith & Co., Detroit, Mich.: Steamers—Volunteer, Capt. Thos. Hackett, Engineer P. B. McCabe; Gettysburg, Capt. Wm. H. Rollo, Engineer W. P. Wenner. Tug—Torrent, Capt. Shephard H. Currie, Engineer I. M. Cronenweth.

Owen, J. Emory, Detroit, Mich.: Steamers—John Owen, Capt. E. F. Thorp, Engineer M. Toner; J. Emory Owen, Capt. J. P. Young. Engineer M. Delaney. Schooners—Michigan, Capt. F. J. Cadotte; Nicholson, Capt. Wm Smith.

Warner & Co., Cleveland, O.: Steamers—Keystone, Capt ClintonGraves; New Orleans, Capt. Ed. Cunningham; W. B. Morley, Capt. James A. Nicolson, Engineer Andrew Marrion; J. C. Lockwood, Capt. J. D. Peterson, Engineer J. B. Wood. Schooners—J. G. Masten, Capt. Henry Parker; H. A. Kent, Capt. R. E. Byrns; Queen of the Lakes, Capt. L. Allen.

Pennington, B. L. Cleveland, O.: Steamers—C. B. Lockwood, Capt. R. Jollie, Engineer J. B. Miller; George Spencer, Capt. J. B. McManus, Engineer C. W. Stedman. Schooner—B. L. Pennington, Capt. C. Lockwood.

Minch, Philip J., Cleveland, O.: Steamers—Onoko, Capt. William Gerlach, Engineer W. H. Miller; Philip Minch, Capt. William Young, Engineer J. Connolly; H. A. Tuttle, Capt. Cornelius Young, Engineer Wm. Donovan; John N. Glidden, Capt. W. H. Johnsen, Engineer John Klassen; A. Everett, Capt. Henry Trinter, Engineer W. J. Downing. Schooners—Sophia Minch, Capt. Joseph Lampoh; George H. Warmington, Capt. Fred. D. Galton.

Wallace, David, Lorain, O.: Steamers—Vega, Capt. Frank Brown, Engineer Charles Sterling; Vulcan, Capt. W. H. Wallace, Engineer——; Robert Wallace, Capt. A. Oldorff, Engineer Ed. Stoddard. Schooner—David Wallace, Capt. Alexander McPhail.

Cleveland Rolling Mill Company, W. C. Richardson, manager: Steamers—Samuel Mitchell, Capt. Thos. Wilford, Engineer James Clancy; J. H. Wade, Capt. C. M. Swartwood, Engineer Geo. McMonagle; J. H. Devereaux, Capt. Simon Gilmour, Engineer Andrew McDonald; Wm. Chisholm, Capt. Richard Call, Engineer Thomas Blaine.

Webb & Co., H. J., Cleveland, O.: Steamers—Iroquois, Capt. Thos. Jones, Engineer S. L. Philipps; Roumania, Capt. R. J. Cowley, Engineer E. J. Prince; J. H. Outhwaite, Capt. Louis Stone, Engineer Martin Burns. Schooners—John J. Barlum, Capt. George Brock; new boat building at West Bay City, Capt. John McKeighan.

Union Steamboat Company, Buffalo, N. Y.: Steamers—Chemung, Capt. Walter Robinson, Engineer H. C. Jordan; Owego, Capt. John Byrne, Engineer C. W. Wall; Tioga, Capt. A. A. Phelps, Engineer G. Fritsche; Jewett, Capt. D. O. Bordeaux, Engineer Wm. Skelton, Jr.; Rochester, Capt. W. P. Garden, Engineer N. Johnson; New York, Capt. J. M. Clossey, Engineer J. Howlett.

Hutchinson, Capt. John T., Cleveland, O.: Steamers—Germanic, Capt. John McNeff, Engineer Charles Price; Rube Richards, Capt. M. M. Place, Engineer John McEachren; Queen of the West, Capt. Ed. Saveland, Engineer Hunt. Schooners—Emma C. Hutchinson, Capt. L. G. Vosburg; May Richards, Capt. T. K. Woodward.

Morley Bros., Marine City, Mich.: Steamers—J. J. Hill, Capt. John Andrews, Enginoer Gus Guy; St. Lawrence, Capt. James W. Nicholson, Engineer A. A. Cameron.

Lehigh Valley Transportation Company, Buffalo, N. Y.: Steamers—Saranac, Capt. J. M. Todd; Seneca, Capt. Geo. McCullough; Tuscarora, Capt. M. H. Murch; E. P. Wilbur, Capt. J. A. Brown; Tacoma, Capt. W. Williams; Oceanica, Capt. D. Driscoll; Clyde, Capt. A. J. Talbot; Fred Mercur, Capt. T. Rahill; H. E. Packer, Capt. Jas. Todd; R. A. Packer, Capt. Geo. McMinn. Engineers of this line are as yet unassigned.

Farwell & Adams, Detroit, Mich.: Steamers—Tom Adams, Capt. Duncan Nicholson, Engineer Jas. Kelly; J. H. Farwell, Capt. D. J. Duncanson, Engineer W. F. Cullen; F. E. Spinner, Jas. LaFramboise, Engineer John Johnston. Schooners—J. H. Rutter, Capt. S. L. Ketchum; Shawnee, Capt. John Eberlein.

Farwell Transportation Company, Detroit, Mich.: Steamer—Geo. L. Colwell, Capt. A. C. Smith, Engineer Dewitt Field. Schooners—J. Godfrey, Capt. Geo. Kenna; D. P. Dobbins, John D'Clute.

Lackawanna Transportation Company, Buffalo, N. Y.: Steamers—Lackawanna, Capt. Frank Weinheimen, Engineer W. B. Lewis; Scranton, Capt. J. H. Green, Engineer Charles Van Avery; Russia, Capt. Henry Murphy, Engineer Wm. Brown; Grand Traverse, Capt. H. H. Ferguson, Engineer Edward A. Carter. This company has chartered the steamers Florida, Wyoming and Cuba for the season of 1893, but the officers of these boats will not be known until Manager Drake returns from California.

Jackson, G. K., Bay City, Mich.: Steamer—D. Leuty, Capt. D. Morrison, Engineer E. Stone. Schooners—Celtic, Capt. John Lovell; Bottsford, Capt. Chas. K. Jackson; G. K. Jackson, Capt. Curtis Jackson.

Moore, Truman, Lorain, O.: Schooners—Kate Winslow, Capt. Edward Moore; Alice B. Norris, Capt. F. E. Ingraham.

Howard Towing Association, Port Huron, Mich.: Tugs—Alanson Sumner, Capt. Ed Allum, Engineer Geo. Bowen; W. B. Castle, Capt. W. E. Tobin, Engineer Peter Finney.

Rice, John, Buffalo, N. Y.: Steamer—Robert Mills, Capt. Alex. Clark, Engineer John Lahee.

Hollister Transportation Company, Buffalo, N. Y.: Steamer—Emily P. Weed, Capt. Edwin Smades, Engineer Chas. Cushane.

Detroit & Cleveland Steam Navigation Company, Detroit, Mich.: Steamers—City of Detroit, Capt. A. J. McKay, Engineer William Huff; City of Cleveland, Capt. Dougal McLachlan, Engineer John Sargent; City of Alpena, Capt. M. Lightbody, Engineer John Jones; City of Mackinac, Capt. Henry Slyfield, Engineer William McDonald; City of the Straits, Capt. Duncan McLachlan, Engineer James Middleton.

Lake Michigan and Lake Superior Transportation Company, Chicago, Ill.: Steamers—Manitou, Capt. Allan McIntyre, Engineer William Conley; Peerless, Capt. H. C. Page, Engineer William Lalande; City of Duluth, Capt. Donald McLean, Engineer Henry Chalk; City of Traverse, Capt. J. M. Twitchell, Engineer S. W. Armstrong; Jay Gould, Capt. James White, Engineer A. P. Williams; J. L. Hurd, Capt. L. Reynolds, Engineer D. Mac Manemy.

Some Large Figures.

Assistant Engineer I. N. Hollis, of the United States navy, in a lecture, says of the new cruiser No. 13: "There will be about sixty-one separate engines, not counting cylinders, which would probably run up to 120, for main, auxiliary and pumping purposes. Her low pressure piston, which is 92 inches in diameter, has an area of 46 square feet, a very comfortable 6 by 8 foot state room on board ship, and this piston has an initial load of 100 tons, equal in weight to three locomotives. The main piston speed at maximum power will be eleven miles an hour, and the maximum speed sixteen miles an hour. The tip of the propeller blades will move through water at the moderate rate of 75 miles an hour. The condenser tubes, if placed end to end, would form a tube thirty-three miles long, and if flattened out, would cover two-thirds of an acre. The cooling water passed through these tubes will be equal to 36,000,000 gallons per day —enough to supply a large city with water. The main boilers, if placed end to end would form a tunnel 156 feet long and large enough for a train of cars to pass through. If divided up into rooms they would supply a hotel with sixteen fair-sized bed rooms. The heating surface is equal to one and one-eighth acres. The grate surface, if arranged in one grate would equal a small town lot of 20-foot front and 77 feet in depth. The boiler tubes, placed end to end, would be 13½ miles long. The blowers are capable of supplying 84,000,000 cubic feet of air an hour, which would supply a good-sized yacht with a 10-knot breeze. The coal required for a full power to run across the Atlantic would supply 150 families for one year. With 20,000 horse power she would lift herself (7,500 tons in weight) to the Brooklyn bridge in three minutes, if hoisting ropes were coiled arounds drums on the shafts. If the engines were set up on shore, and used as a catapult, they would throw a 300-pound weight with such velocity that it would go off into space entirely clear of the earth's influence.

Thinks Well of Lake Men.

Commander Nicoll Ludlow, U. S. N., who was light-house inspector on Lake Michigan until the close of last season, but who is now in Honolulu in command of the United States flag ship Mohican, expresses a very warm friendship for lake men in a personal letter received a few days ago by a friend in Cleveland. He says: "I was sincerely sorry to sever my connection with lake men and lake matters, just as I was getting to know the men and to get the run of the necessities—with a chance of being of some use—but the navy department has naturally a first claim on the services of navy officers, and when the time came to go it certainly was the best thing to do—to move quickly. I hope in the future to be in some position to be of use to lake men, and shall always remember with pleasure what good fellows and clever men they are."

Sales of Vessel Property.

Steamers City of Genoa and City of Naples, James Davidson of West Bay City, Mich., to J. C. Gilchrist of Cleveland and F. W. Gilchrist of Alpena, Mich., $140,000 each; steamer City of Berlin, James Davidson of West Bay City, Mich., to Thompson Transportation Company of Detroit, $125,000; steamer Chas. A. Street, H. M. Loud & Sons Lumber Company of Au Sable, Mich., to Capt. William Dulac and others of Mt. Clemens, $35,000; tug John Owen, S. B. Grummond of Detroit to F. W. Gilchrist of Alpena, $19,000; schooner Kate Kelley, George Goble of Oswego, N: Y., to Chicago parties, $3,000; steamer J. G. Nichol, United States marshal at Sheboygan, Wis., to Paul D. Carpenter of Milwaukee, $1,050; steamer Lowell, Wagner Lake Ice Company of Sandusky, O,, to W. E. Coulter and William Denny of Detroit, $8,500; schooner John Raber, Capt. J. P. Clark to Capt. Burrows of Egg Harbor, Wis., $2,200; schooner A. J. Rogers, A. E. Chapman of Sandusky to Capt. W. H. Hargrove of Detroit, $5,000; barge J. E. Potts, United States marshal at Chicago to George Nester, $3,000; passenger steamer Bon Voyage, Richelieu and Ontario Navigation Company to Decatur & Skinner of New York, $36,000.

The addition of the two big Davidson steamers to the Gilchrist fleet increases the number of boats in that line to twenty-one. The tonnage of the steamers is greater than that of the steamers in the Bradley line of Cleveland, but the latter still leads the lakes in the aggregate of tonnage of all kinds.

The Jenks Ship Building Company of Port Huron is reported to have sold the new lumber steamer Lloyd S. Porter to Chicago parties for $68,000. This is the boat launched on Saturday last, and one of three lumber steamers of 158 feet keel building at the Port Huron yard.

Notice to Mariners.

The light house board gives notice that a number of buoys in the channel west of Bois Blanc island, Detroit river, in Maumee bay and in Niagra river will not be replaced next season. These buoys were all in places not frequented now by deep laden vessels, and a list of them was printed in the REVIEW last fall when Commander Reid of Buffalo suggested that they be removed permanently.

Opening of Straits and Canals.

As a late opening of navigation is expected this year, it will be interesting to note the dates of opening of the straits and canals for the past twenty years, as shown in the following tables:

STRAITS OF MACKINAC.

1892	April 10	1882	April 3
1891	April 20	1881	May 3
1890	April 8	1880	April 4
1889	April 6	1879	April 22
1888	May 4	1878	Mrch 15
1887	April 24	1877	April 18
1886	April 21	1876	April 28
1885	May 5	1875	April 28
1884	April 25	1874	April 29
1883	April 28	1873	May 1

ST. MARY'S FALLS CANAL.

	Opened.	Closed.		Opened.	Closed.
1892	April 19	Dec. 7	1882	April 21	Dec. 3
1891	April 27	Dec. 7	1881	May 7	Dec. 5
1890	April 20	Dec. 3	1880	April 28	Nov. 15
1889	April 15	Dec. 4	1879	May 2	Dec. 3
1888	May 7	Dec. 4	1878	May 8	Dec. 3
1887	May 1	Dec. 20	1877	May 2	Nov. 30
1886	April 25	Dec. 4	1876	May 3	Nov. 26
1885	May 6	Dec. 2	1875	May 12	Dec. 2
1884	April 23	Dec. 10	1874	May 12	Dec. 3
1883	May 2	Dec. 11	1863	May 5	Nov. 12

WELLAND CANAL.

	Opened.	Closed.		Opened.	Closed.
1892	April 19	Dec. 12	1882	April 30	Dec. 5
1891	April 20	Dec. 5	1881	May 2	Nov. 19
1890	April 15	Dec. 10	1880	April 20	Nov. 30
1889	April 16	Dec. 1	1879	May 5	Dec. 5
1888	April 23	Dec. 8	1878	May 7	Dec. 14
1887	May 3	Dec. 10	1877	April 17	Dec. 5
1886	April 19	Dec. 1	1876	April 17	Dec. 15
1885	May 7	Dec. 9	1875	May 3	Dec. 14
1884	April 23	Nov. 30	1874	April 9	Dec. 10
1883	April 5	Dec. 12	1873	April 11	Nov. 29

Inventions of a Marine Nature.

Specially reported from Washington for the MARINE REVIEW.

492,785—Center-board, by Joel Couch, Clayton, N. Y.; filed Aug. 9, 1892; serial number 442,627.

492,827—Device for unloading vessels, by Sivert B. Nilson, of Duluth, Minn.; filed Jan. 30, 1890; serial number 429,141. A combination of elevating chains; buckets fastened to the chain at their upper ends and cross links at the bottom of the buckets for the purpose of steadying the same.

492,873—Rudder, by Alexander McDougall, of Duluth, Minn.; filed Sept. 17, 1891; serial number 406,012.

492,960—Steering apparatus for submarine vessels, by John P. Holland, of Newark, N. J.; filed May 23, 1892; serial number 433,969.

493,000—Electric steering gear, by Lewis S. Van Duser, of United States navy; filed Nov. 26, 1892; serial number 433,201.

Some time since the REVIEW published an illustration of the five-masted steam auxiliary sailing ship Marie Rickmers, and considerable attention was attracted by an offer of a souvenir to anyone naming the big ship's masts, yards, etc. This boat passed Angiers July 24, and nothing has been heard of her since. On March 1 she was 220 days out. On her last trip out the master received a letter of reprimand from the owners, on account of the passage being very long, and dropped dead after reading it. The mate took charge of the ship and took on a cargo of rice. She carried forty men, and is supposed to have "turned turtle" off the cape.

Plans for the New American Ships.

SOME LEADING FEATURES OF THE FAST ATLANTIC LINERS THAT ARE EXPECTED TO BRING ABOUT A REVIVAL OF AMERICAN SHIPPING.

In the accompanying engraving the REVIEW presents a rough sketch showing capacities of compartments of one of the four twin-screw steel steamships to be built by the William Cramp and Sons Ship and Engine Building Company for the International Navigation Cempany. Since the passage of the act of March 3, 1891, providing for an ocean mail service, a great deal has been said about the American ships to be built for the owners of the Paris and New York, but the sketch shown here is the first drawing of any kind to appear in print. Now that the material for hulls and boilers has been contracted for and work on these boats has been started, it is expected, however, that plans giving more detail can be obtained shortly. The general features in both hull and machinery are settled, and to these considerable attention will be given in these columns in this and future issues, on account of the importance of the vessels to the merchant marine of the country.

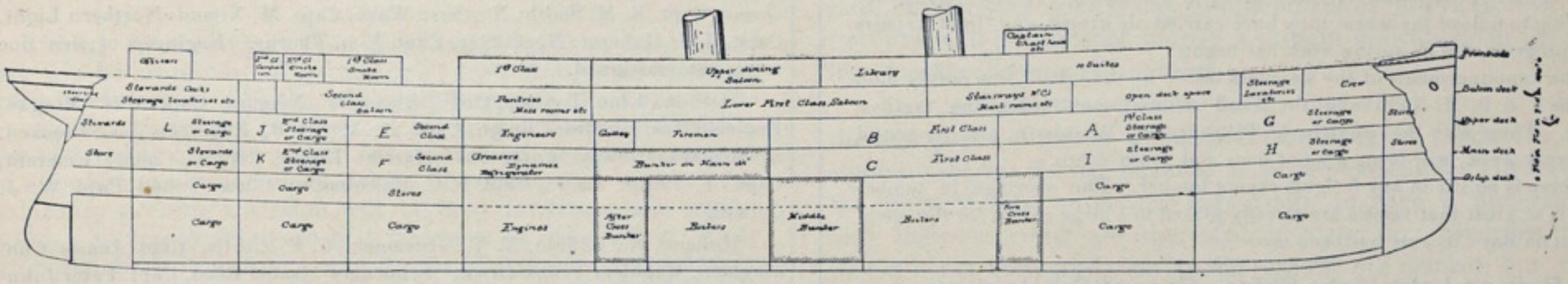
It is not the intention of the International company to build five boats at present, as has been erroneously stated a great many times. Only four boats for the Red Star line are to be built and they are to be but 510 feet between perpendiculars, or 17 feet shorter than the Paris or New York. The first of these four steamers will be put on the Southampton route, temporarily, with the Paris and New York, while the other three will run to Antwerp in the Red Star line. A fifth boat, the "world beater," as she is now styled, will be constructed later, but it can be said with certainty that plans for this steamer have not as yet been considered, as it is the intention of the International company, as well as the Cramps, to take advantage of all improvements shown in the new Cunard liners Campania and Lucania and the White Star steamer building in Belfast, Ireland. This fifth boat is, of course, intended for the Southampton route with the Paris and New York, and when completed will replace the first of the four boats now under contract.

Dimensions of each of the first four boats as now fully agreed upon are as follows: Length between perpendiculars, 510 feet; breadth of beam, moulded, 63 feet; depth, moulded, 42 feet. The hull is to have a double bottom constructed on the cellular principle, sub-divided by athwartship bulkheads and a longitudinal division arranged for heeling purposes, the whole to be available for water ballast. The stem will be straight and the stern elliptic, and there will be three pole masts.

There will be promenade, saloon, upper, main, and orlop decks, the three first named to be plated from end to end. The main deck will be plated for the length of the machinery space, and will have stringers and ties beyond. Wood decks will be laid on all decks. The promenade deck will extend unbroken the whole length of the ship. On 26 feet draft of water the vessel is to carry 1,900 gross tons dead weight, cargo, and 3,000 tons of coal, baggage, stores, etc.

The engines and boilers are to be of sufficient size to maintain 14,500 indicated horse power as an average all the year round when the ship is at work in the North Atlantic trade. The builders are to show by an extended sea trial that when working under ordinary sea-going conditions, the ship is to be easily capable of maintaining a speed of 20 knots per hour at sea in ordinary weather. Trials are to be carried out in accordance with United States government post-office regulations. The owners are to have unusual power in altering or adding to the work as now agreed upon, and it is probable that there will be some difference in the ships as regards capacity of different compartments or cabin arrangements. If desired, the vessels are to be classed by the builders in Lloyds Register of British and Foreign Shipping in the 100 A 1, three deck, steel class, or the highest class of the record of American and Foreign Shipping of the American Shipmasters' Association, or in any other classification society upon which the owners may decide.

Of course, the quadruple expansion engines of these twin-screw vessels will be their most interesting features, on account of the great power they are expected to develop. This is the first time an effort has been made to use quadruple expansion in engines of over 4,000 horse power, and in only one or two instances has it been applied to engines of that power. Of this machinery, as well as other important parts of the vessels, it is expected that more detail can be given in later issues.



SKETCH SHOWING COMPARTMENTS OF ONE OF THE NEW AMERICAN SHIPS.

"Collision Bend" Improvement.

Gen. Poe was not in Detroit on Tuesday when the committee from the Lake Carriers' Association, appointed to consider plans for immediate dredging at "Collision Bend," visited that city, but the question was presented to officers in charge in the absence of the general, and an answer as to whether the money appropriated for this purpose can be expended upon the opening of navigation is expected before the close of the present week. Members of the committee are encouraged by their visit to Detroit.

In General.

The MARINE REVIEW will pay 20 cents for copies of the paper in good condition of the following numbers: Volume 3, numbers 1 and 10; volume2, number 8; volume 1, number 3.

Secretary Carlisle of the treasury department announces that no light keeper or member of the life-saving service will be disturbed merely because of his political opinions.

The Army and Navy Journal of New York has published a special edition of the new infantry drill regulations for the army and the national guard, with an appendix giving the interpretations to many questions in the new drill.

It is reported that the cost of fuel alone to bring the white squadron around from San Francisco is about $120,000. This sum is more than it would ordinarily be on account of the marine growth on the bottoms of the ships.

The caravel Santa Maria, escorted by the cruiser Isla de Luzon, sailed from Cadiz on the 6th inst. for America. The cruiser will proceed half way across the Atlantic with the caravel. The Santa Maria will stop for a few days at the Canary islands and several weeks in Cuba.

Subscribers will avoid danger of mistakes by giving the old as well as the new address when a change is desired.

Heavy Machinery at the Big Lake Erie Works.

Special Correspondence to the MARINE REVIEW.

BUFFALO, N. Y., March 16.—A visit to the Lake Erie Engineering Works finds work on the second barbette for the cruiser New York well under way. One of the four sections of this immense ring that supports a turret on the cruiser was being cut into shape roughly before it is set up with the other three sections on the lathe for completion. Each section weighs, to begin with, about twenty-eight tons. When finished it will be reduced to twenty-two tons. The amount of nickel in the composition makes the plate about as hard as glass, and a shaving coil when held down by a heavy weight for several days flies back to place perfectly when released, showing not the least "set," as would be the case with an ordinary steel spring. The whole barbette will be on the lathe some time next month. There is no other machinery in the country that will cut steel of these dimensions. The 1,500 horse power engine building for the world's fair will be done in a week or two. It is the next largest to be used at the fair, and will turn the electric machinery. It stands about 24 feet high, having a 24-ton fly wheel and a 15-ton generator. Lieut. Stevens, chief engineer of the electric department of the fair, has just been down to inspect the engine. The engineering and boiler works together now employ about 450 men. The boilers of the steamer Robert Mills have just been turned out of the latter establishment.

Capt. Tom Ryan, well known as the rebuilder of numberless craft that other people thought ready for the bone-yard—the ill-fated steamer C. C. Ryan being his last venture—has lately bought the Anchor line's canal steamers, six in number, which have been retired for two seasons, as that line couldn't make any money on them. Ryan owns the bark Journeyman, and last fall bought the schooner William Home. He is putting his elevator at Black Rock into shape for canal business, and will stay out of the elevator pool, as usual.

The new steamer building for the Western Transit line at Detroit is to be called the Mohawk. Back in the 70's the line contained a Mohawk, which was destroyed by fire. She was a wooden-arch steamer of the style that prevailed in those days.

Buffalo harbor is open for navigation. The ice went out last Friday morning after the big rain, and, thanks to the efforts of the fire boat, did no harm. There is comparatively little doing in the harbor. A few vessels are preparing to unload the wheat they have carried all winter, and light repairs are in progress, but no spring work has begun.

The announcements of the steamers leased by the "Soo" line mostly stop with the F. & P. M. No. 5 and the Ford without mentioning the Saginaw Valley. These with the whalebacks Pillsbury and Washburn, making round trips every week, will bring a lot of flour and grain down.

There is no stir in any freights except lumber. The shortage in lumber stocks is so great that vessels are already placed to a large extent for the opening, but no Bay City rate has been made.

Bids on Lake Light-Ships—Case of Col. Ludlow.

Special Dispatch to the MARINE REVIEW.

WASHINGTON, D. C., March 16.—Bids were opened in the office of the light-house board on Tuesday for five wooden light-ships for the lakes, which were illustrated and described in the MARINE REVIEW, issue of Feb. 23, 1893. The Craig Ship Building Company of Toledo is the lowest bidder at $67,490 for all five of the boats. For reasons not as yet made public, the contract may not, however, go to the lowest bidder. Prices made by at least two of the bidders are very probably within the limit of $85,000 available for all five boats, as the contractors furnish everything excepting one coil boiler for each boat and the lense lanterns. The bids, as furnished by Commander Robley D. Evans, naval secretary of the board, are as follows:

Craig Ship Building Company, Toledo, O., $13,490 for light-ship No. 59, $13,990 for each of the four others, and $67,490 for all five; Murphy & Miller, Cleveland, $13,973 for light-ship No. 59, $14,023 for each of the four others, and $69,865 for all five; Davis Boat and Oar Company, Detroit, $22,653 for light-ships Nos. 59, 60, 61 and 62, $23,550 for light ship No. 63, and $113,550 for all five; J. M. Brooks, Boston, $27,390 for each light ship, and $136,950 for all five; Woodall & Co., Baltimore, $32,500 for light ship No. 59, and $157,500 for all five: Wolverine Dry Dock Company Port Huron, Mich., $13,838 for light ship No. 59, and $13,938 each for light ships Nos.60 and 61, $100 to be deducted if delivered at Detroit.

The report of the army court of inquiry in the case of Col. Ludlow with the light-house board concludes from a review of the evidence that the scheme proposed by the light-house board for lighting St. Mary's river was not a good one, and if executed might have resulted in marine disaster. On the other hand, the scheme proposed and in part executed by Col. Ludlow is approved by the court. To this extent Col. Ludlow is vindicated, but the court next covers many pages with criticism of Col. Ludlow for not keeping the light-house board informed of his course, and the report is altogether unsatisfactory from the fact that it tries to please both sides. The only positive recommendation is that no further action should be taken. The strange character of the verdict is undoubtedly due to Gen. Otis being at the head of the inquiry. He has recently been trying to secure promotion from a brigadier-generalship to a major-generalship, and it has been expedient for him to so frame his reports as not to displease the high officials on the light-house board.

Additional Appointments of Officers.

Canadian vessels controlled in Toronto: Steamers—Ocean, Capt. John T. Towers, Engineer J. Harringten; Persia, Capt. J. H. Scott, Engineer A. Ramsey; Cuba, Capt. John Malcolmson, Engineer Wm. Kennedy; Alma Munro, Capt. T. Brown, Engineer T. Mylne; Cibola, Capt. W. H. Solmes, Engineer W. Walsh; Chicora, Capt. Harbottle, Engineer Parker; Acadia, Capt. A. H. Malcolmson, Engineer J. Brown; Lake Miehigan, Capt. J. Clifford, Engineer Jas. Boyd; St. Magnus, Capt O. Patenaude, Engineer D. Foley; Arabian, Capt. J. H. Chestnut, Engineer John Haff; Rosedale, Capt. Jas. Ewart, Engineer J. H. Ellis; Algonquin, Capt. Jas. McMaugh, Engineer S. Brisbane; Manitoba, Capt. Anderson, Engineer R. Kenny; Alberta, Capt. McAllister, Engineer A. Cameron; Athabasca, Capt. McDougall, Engineer A. Lockerbie; United Empire, Capt. S. McNab, Engineer ——; Monarch, Capt. Robertson, Engineer S. A. Mills; Empress of India, Capt. G. O'Brien, Engineer R. McCaul; Garden City, Capt. Murray, Engineer J. Booth; Lakeside, Capt. McCormack, Engineer Wm. Watts; Modjeska, Capt. Henry Sharpe, Engineer ——; Macassa, Capt. Wm. Zealand, Engineer Wm. Taylor; Sir L. Tilley, Capt. Alex. Irving, Engineer Henry Bront; Dominion, Capt. A. Welch, Engineer ——; Seguin, Capt. Symes, Engineer ——.

Inter-Ocean Transportution Company, Milwaukee, Wis.: Steamers—Maryland, Joseph E. Yax, Engineer S. C. Davis; Manchester, Capt. Timothy Kelley, Engineer James Grant; Manhattan, Capt. H. F. Loftus, Engineer Wm. Turnbull; Massachusetts, Capt. P. A. Anderson, Engineer Wm. Ahern; Merrimac, Capt. Matt Smith, Engineer Wm. R. Patterson; Minnesota, Capt. Berlin Sniffen, Engineer Lewis Allison. Schooner—Metacomet, Capt. W. L. Shields.

Wolf & Davidson Steamship Company, Milwaukee, Wis.: Steamers—Fred Pabst, Capt. L. W. Young, Engineer James Bennett; William H. Wolf, Capt. William Lund, Engineer Thos. Albrighton; Thomas Davidson, Capt. J. H. Coleman, Engineer Jacob Noble; George H. Dyer, Capt. William Jamieson, Engineer Thos. Craig; F. Schlesinger, Capt. D. P. Craine, Engineer Arthur Fortier.

Northern Steamship Company, Buffalo, N. Y.: Steamers — Northern King, Capt. Wm. H. Campau; North Wind, Capt. Delos Waite; Northern Queen, Capt. E. M. Smith; Northern Wave, Capt. M. Niland; Northern Light, Capt. M. J. Haberer; North Star, Capt. Wm. Thorne. Engineers of this line are as yet unassigned.

Mathews Line, Toronto, Ont.: Steamers—Niagara, Capt. Jas. Morgan, Engineer Jos. Grimes; Clinton, Capt. H. Maitland, Engineer Jas. Bracken. Schooners—Grimsby, Capt. Jas. Martin; Lisgar, Capt. C. Coons; Emerald, Capt. J. Philp; Laura, Capt. S. C. Malcolmson; Clara Youell, Capt. W. J. Colwill.

Holland, N., Buffalo, N. Y.: Steamer—C. F. Curtis, Capt James Cunningham, Engineer Frank Desot. Schooners—Isabel Reed, Capt. Peter Johnson; N. C. Holland, Capt. Peter Keischgens; T. S. Fassett, Capt. Albert Renders.

Comstock, A. W., Alpena, Mich.: Steamer—Porter Chamberlain, Capt. C. W. Black, Engineer R. B. Buchanan. Schooners—Interlake, Capt. B. Warwick; Abram Smith, Capt. G. B. Fuller; I. B. Comstock, Capt. T. D. Manual.

Campbell, A. D., Michigan City, Ind.: Steamer—Walter Vail, Capt. P. J. Canniff, Engineer D. McMillan. Schooner—Baltic, Capt. A. D. Campbell.

Stocks of Grain—Available Capacity at Chicago.

The following table, prepared from reports of the Chicago board of trade, shows the stocks of wheat and corn in store at the principal points of accumulation on the lakes on March 11, 1893:

	Wheat, bu.	Corn, bu
Chicago	15,214,000	6,431,000
Duluth	15,959,000	341 000
Milwaukee	2,020,000	29,000
Detroit	2,007,000	35,000
Toledo	3,681,000	1,604,000
Buffalo	2,382,000	73,000
Total	41,263,000	8,513,000

At the points named there is a net increase for the week of 223,000 bushels of wheat and a decrease of 111,000 bushels of corn.

In addition to the above stocks, there was afloat in lake vessels at Chicago on the 11th inst. 4,153 bushels of wheat, 1,979 bushels of corn and 316,000 bushels of oats; at Duluth, 571,000 bushels, Detroit 230,000 bushels and Toledo 25,000 bushels of wheat.

A glass tube which will inclose a minnow and keep it alive by means of water circulating through it, with three hooks attached, would seem to be perfection for fish-bait. Welsh & Graves, Natural Bridge, N. Y., are the manufacturers.

Iron Mining.

VALUE OF LEADING STOCKS.

Quoted by Chas. H. Potter & Co., No. 104 Superior St. Cleveland, O.

Stocks.	Par Value.	Bid.	Asked.
Cleveland-Cliffs Iron Company.....	$100 00	$ 52 50	$.....
Champion Iron Company.....	25 00	25 00	35 00
Chandler Iron Company.....	25 00	40 00	41 00
Jackson Iron Company.....	25 00	.....	75 00
Lake Superior Iron Company.....	25 00	28 00	.....
Minnesota Iron Company.....	100 00	.....	65 00
Pittsburgh & Lake Angeline Iron Co.....	25 00	.....	140 00
Republic Iron Company.....	25 00	.....	10 25
Ashland	25 00	.....	.....
Section Thirty-three.....	25 00	1 00	.....
Brotherton.....	25 00	.....	.....
Iron Belt.....	25 00	2 25	.....
Aurora.....	25 00	6 50	7 00

The only dividend of recent date from any of the mining companies is one of $1 a share from the Ashland company. Owners of iron mining stocks, alike to the ore dealers, are holding their shares in anticipation of better prices, as a result of slight improvement in the iron market. There is some inquiry but little movement, on account of the low prices offered. In the case of Lake Superior, for instance, a few sales of small blocks were made some time ago as low as $25, and there is some demand for the stock now at a marked improvement on this price, but most of the share holders want $35. The deal to turn over all Section Thirty- three stock to the Montreal company at $1 a share will certainly meet with opposition from minority stockholders, and if the minority sees fit to hold out the Montreal company may be put to some trouble when the time comes for mining ore from the Section Thirty-three property.

During Wednesday, Thursday and Friday of next week there will be an important gathering at Iron Mountain, Mich., of men actively engaged in the mining industry of the Lake Superior region. A second preliminary meeting is to be held, with a view to forming an association for promoting social intercourse and affording an opportunity for an interchange of views. On Wednesday evening a session will be held for temporary organization. Thursday forenoon will be spent at the Chapin, Ludington and Hamilton mines, and in the afternoon a special train will take the party to Norway and Vulcan, where the Aragon, Curry, West Vulcan and East Vulcan mines will be seen. Another evening session will be held Thursday to complete the organization. At either of the evening sessions the reading and discussion of papers may be taken up. Dr. Nelson P. Hulst of Milwaukee will present a paper on the "Geology of the Portion of the Menominee Range East of the Menominee River," and Mr. Perr Larsson of Norway will discuss soft ore mining. A visit to the hydraulic compressor works and the Pewabic mine will be made Friday morning.

It is announced from the Mesabi range that a contract has just been let with Drake, Stratton & Co. of Pittsburg, for stripping 200,000 yards of surface on the east forty of the Biwabik, where no work has as yet been done, and that John B. Weimer has entered into an extensive stripping contract with the owners of the Ohio, which adjoins the Virginia on the east. Mr. Joseph Selwood, vice-president of the Duluth & Iron Range Railway, says that a spur to the Hale mine, a non-Bessemer property owned by the Standard Ore Company, will be constructed shortly. The Hale has secured a reduction in royalty, and will very probably ship some ore during the coming season. It is also announced that Mr. Selwood has secured control of Rouchleau mine, and that the Merritts have purchased a controlling interest in the Lake Superior, both Mesabi properties.

Crerar, Clinch & Co , of Chicago, have consummated the negotiations which have been in progress for some time, for the purchase of the Shafer mine. There are 80,000 to 100,000 tons of ore opened up, ready to be taken out. There are about 25,000 tons of ore on stock-pile whieh was not purchased, this being retained by the Shafer Iron Company.

The Mount Athos Iron Company, Vermillion range, capital $500,000, has been incorporated. Among the direetors are C. C. Wyatt, Moses Clapp and D. B. Searle.

Improvement in the Freight Outlook.

Sales of Bessemer pig iron are reported at $13.65 a ton, and stocks are somewhat lighter than they were a month ago, notwithstanding an increase in production. The present price of pig accordingly shows an advance of 55 cents a ton over the very low price of $13.10 reached several weeks ago. Another encouraging feature of the market is the fact that furnace men are understood to be well sold up for sixty days or more to come, and purshasers are buying only to the extent of their immediate needs, on account of a fear of pushing up prices. These conditions do not necessarily mean a marked advance in the iron market, but it is important to note that they are the only indications of improvement that have appeared in the market for a long time past. As a result, ore dealers are more set in their demand for $4 or better as a price for standard Bessemer ores, and they are supported still further in taking this stand by the movement of ore from Lake Erie docks. Ore is going to the furnaces very freely, some of the shipments including old lots of high priced stock that has remained on dock since 1891.

Vessel owners need not be surprised, however, if on four-dollar ore an effort is made to secure tonnage below $1.20 or even $1.15 from the head of Lake Superior. Whether such rates would be accepted on any considerable amount of tonnage is another question, especially as it is the general opinion that ore sales can not this year be delayed until after the opening of navigation. The conditions ruling in 1891, when sales were not made until early summer, are different to those now existing. Then the docks were overcrowded with unsold ore and there was no demand for new stocks, while at present the demnd is ceartain, but delay in sales is due to differences as to prices, a condition that will be adjusted shortly if present indications in the pig iron market amount to anything.

It is probably unnecessary to say that there is no truth in the newspaper stories of a combination among ore producers. A combination in the ore business is an impossibility. Owners of the large Mesaba properties may desire to have it understood that their associates are interested in Gogebic properties, and that it is not their intention to depress the ore market, but this is about all that can be made out of the stories of a combine.

Duluth brokers have for several days past been offering 3¾ cents for vessels coming from Ohio ports to take grain at the opening, but it has not been accepted; neither has anything been done as yet in establishing the rate on coal to the head of Lake Superior. It is claimed that two boats have been chartered to take Duluth grain at 3¾ cents, but it will probably be found that they are boats now in Chicago, their owners intending that they will first make a trip to Lake Erie.

Important Supreme Court Descision.

The supreme court of the United States decided a very important admiralty case on the 6th inst., which concerns the entire country but more particularly the states of Indiana, Illinois and Wisconsin. It was the case of the propeller J. E. Rumbell, and the question to be decided was certified to the supreme court by the court of appeals for the seventh circuit, and was this: Are the claims arising out of a mortgage on a vessel to be preferred to the claims for supplies and repairs furnished the vessel in the home port? The question was decided in the negative and the descision reverses the rule which was established in the case of the Grace Greenwood by Judge Drummond, more than twenty years ago, and which, from that time to the present, has been the law in the seventh circuit, comprising the states of Indiana, Illinois and Wisconsin. The court also held that the lien for supplies furnished in the home port, if favored by a lien under the state law, was entitled to the same rank as supplies furnished in a foreign port or a state other than the one to which the vessel belongs. Since the first decisions on this question in 1855, the courts in the various circuits of the United States have differed, and this descision finally puts an end to all controversy and settles the rule for the whole country. The home supply men were represented by Mr. Charles E. Kremer of Chicago and the mortgages by Mr. H. W. Wolsely of the same place.

MARINE REVIEW.

DEVOTED TO THE LAKE MARINE AND KINDRED INTERESTS.

Chicago Office, Western Union Building, 110 LaSalle Street.
Published every Thursday at No. 516 Perry-Payne Building, Cleveland, O.

SUBSCRIPTION—$2.00 per year in advance. Single copies 10 cents each. Convenient binders sent, post paid, 75 cents. Advertising rates on application.

The books of the United States treasury department contain the names of 3,600 vessels, measuring 1,154,870.38 tons in the lake trade. In classification of this fleet the lakes have more steamboats of 1,000 to 2,500 tons than the combined ownership of this class of vessels in all other sections of the country. The number of vessels of 1,000 to 2,500 tons on the lakes on June 30, 1891, was 310 and their aggregate gross tonnage 512,787.58; in all other parts of the country the number of this class of vessels was, on the same date, 213 and their gross tonnage 319,750.84. The classification of the entire lake fleet is as follows:

Class.	Number.	Tonnage.
Steam vessels	1,592	756,751.53
Sailing vessels	1,243	325,131.06
Canal boats	703	72,515.42
Barges	62	20,472.37
Total	3,600	1,154,870.38

Tonnage built on the lakes during the past five years, according to the reports of the United States commissioner of navigation, is as follows:

	No. of boats.	Net Tonnage.
1887	152	56,488.32
1888	222	101,102.87
1889	225	107,080.30
1890	218	108,515.00
1891	204	111,856.45
Total	1,021	485,042.94

St. Mary's Falls and Suez canal traffic: Number of boats through St. Mary's Falls canal in 1890, 228 days of navigation, 10,557; tonnage, net registered, 8,454,435. Number of boats through Suez canal during 1890, full year, 3,389; tonnage, net registered, 6,890,014. Number of boats through St. Mary's Falls canal in 1891, 225 days of navigation, 10,191; tonnage, net registered, 8,400,685. Number of boats through Suez canal during 1891, full year, 4,207; tonnage, net registered, 8,698,777. Number of boats through St. Mary's Falls canal in 1892, 233 days of navigation, 12,580; tonnage, net registered, 10,647,203. Number of boats through Suez canal during 1892, full year, 3,559; tonnage, net registered, 7,712,028.

Entered at Cleveland Post Office as Second-class Mail Matter.

A FEW big corporations are engaged in mining and shipping soft coal to the head of Lake Superior. The mines and the docks at Lake Erie ports, as well as those at Duluth, Superior and Ashland, the important terminals at the upper end of the lake route, are practically controlled by the same people. In some cases differeut corporations manage the business at the two ends of the route, but the stockholders are about the same. It will thus be readily seen that the managers of these companies have little difficulty in agreeing on lake freights to be paid each year on their coal, and they do agree on such rates. The agreement is not of necessity in the form of an iron-bound contract, but it is nevertheless an understanding that has of late years been found effective. It has reduced the cost of carrying coal to unreasonable figures. Everybody in the vessel business knows that an agreement among a dozen largə owners of vessel property to refuse to carry coal at the low prices proposed by the shippers, would be decidedly embarrassing to these shippers, but yet the owners who might take such action look on quietly while another effort is now being made to establish the old rate of 45 cents a ton for carrying coal 1,000 miles. It is not the intention to advocate high rates to the disadvantage of the producers of commodities that furnish a business for vessels, but this coal rate is manifestly unfair to shippers whose interests are in freight bound down the lakes, and the coal dealer, whose prices are based on the rates of freight established before the opening of navigation, would lose nothing by a general movement for higher freight charges. Someone should take the initiative in bringing about a trial at forcing higher coal freights, especially on season contracts that may be made before another week has passed.

VESSEL owners and men in all branches of the shipping business on the lakes who allow politics to take no part in the conduct of their business affairs are very emphatic in saying that ex-Secretary Foster left the treasury department with two acts of gross injustice hanging over his official head. One of these was the order to issue licenses to the foreign engineers of the steamer New York, and the other was the hanging up in the war department of the report of the board of inquiry in the case of Col. William Ludlow, who was treated so shamefully by the light-house board. In the latter case there is probably little chance for appeal under the present administration, but the marine engineers of the country do not propose to submit without a stubborn fight, and they should be upheld by all interests in the merchant marine. President Uhler, who is at the head of the national organization of marine engineers, and who is now making a tour of lake cities, reports that the questions raised by Mr. Foster in his feeble excuse for placing foreigners in charge of the engine department of an American ship will come before the United States supreme court at an early date, and there is no fear of the result on the part of the American engineers.

IT is to be hoped that the two or three demurrage cases still pending against Buffalo elevators, as a result of the grain blockade in 1891, will not all be settled. The vessel interests got a black eye in this question of delays at elevators by the decision of Judge Cox of the United States distrist court, in the case of the Owen boats of Chicago, as that case was injudiciously selected, and the decision against the vessels stiil further complicated the question by its negative bearing upon it. Unlike the case of the owners of the steamer Wm. Edwards against the New York Central, which was settled after Judge Cox's decision, the Owen interests made no claim that the railway company unloaded its own or other boats out of turn, or that provision could be maee for the grain elsewhere. At least one of the cases still hanging fire is as good as that of the owners of the Edwards, and a great benefit will accrue to the vessel interests if it is brought to trial, as a precedent will be established by a favorable decision on the side of the vessel owner.

PITTSBURG boomers of the so-called Lake Erie-Ohio river ship canal; who secured some time ago an appropriation for surveys from the state legislature, are now trying to form u company for beginning work on the canal. Lake men, who would be most interested in such a canal if any benefits were to be derived from its construction, have repeatedly pronounced the scheme the most impractical ever suggested in the lake region. It may be well to inform anyone who contemplates attending the meeting in Pittsburg on the 20th inst. that, laying aside all questions of engineering difficulties, the promoters of this scheme have no practical knowledge of the many disadvantages in the way of such a canal that make the present talk about it ridiculous to producers and consumers of iron ore, as well as lake vessel owners.

OWNERS of lumber carriers will undoubtedly find it to their advantage to keep account of the increase in lumber business at Chicago. Duluth and other points at the head of Lake Superfor will continue to develop as manufacturing centers, and will become greater distributing points in years to come, when the forest products of the Pacific coast are shipped east in large quantities, but as long as the producing regions of Lake Superior hold out vessels will be required in the Chicago trade. The enormous growth in trade between Lake Superior ports and Chicago during the past few years is the best evidence of the truth of this claim.

IT was agreed at the annual meeting of the board of supervising inspectors of steam vessels, recently held in Washington, that all drums attached to coil, pipe, sectional, or water-tube boilers not already in use, shall be required to have the heads of wrought iron or steel flanged and substantially riveted to the drums, in all cases where the diameter of the drums exceed 6 inches.

Publications.

The February number of the Journal of the Society of Naval Engineers contains a number of timely articles and discussions. The article on the "Great Lakes of North America," prepared by Mr. Geo. H. Ely and read recently before a congress on inland navigation at Paris, is printed and the statistical report of S. G. Brock, chief of the bureau of statistics, treasury department, on the "Commerce of the Great Lakes," is also included. Copies of the latter, embodied in a book containing valuable statistics of lake commerce, can be had by sending 20 cents in stamps to the REVIEW. Other articles treat of steel castings, coal endurance of war vessels, marine boiler furnaces, and methods of running line shafting and boring out stern tubes and brackets of the U. S. S. Cincinnati. Passed Assistant Engineer Howard Gage and Assistant Engineer Emil Theiss, United States navy, also contribute to this number of the Journal a most interesting article on the "Contract Trial of the U. S. S. Monterey," the first vessel of the United States navy fitted with water tube boilers. The description of the ship is exhaustive, the most of the data relative to the trial is complete, but a most interesting feature that might be added to the subject, that of opinion relative to the success in the adapatability of the Ward coil boilers to large vessels, is dispensed with the following paragraph: "The boilers steamed freely and furnished all the steam required during the first part of the run, but owing, in a great measure, to the unskillful handling of the fires, the steam pressure fell off during the latter part of the run. The reducing valves for equalizing the pressure between the Ward and cylinder boilers—there are two cylindrical and four coil boilers—were secured off their seats, rendering them inoperative. The Ward and cylindrical boilers carried their water steadily and generated steam regularly, and without any sudden fluctuations of pressure."

"American Marine," by W. W. Bates, ex-commissioner of navigation, bears the stamp of a valuable work, and irrespective of the plans outlined for the building up of the foreign commerce of this country, it contains carefully prepared statistics and information that will repay the practical vessel owner for the time spent in reading it. The author has been connected for half a century in various capacities with American marine, and during this time has acquired experience that has at least enabled him to write interestingly on the subject. An extended review of the book will probably be given later. The book can be had from the publishers, Houghton, Mifflin & Co., Boston, Mass.

"The Yachts and Yachtsmen of America," being prepared by Henty A Mott for the International Yacht Publishing Company, No. 100 Broadway, New York, and to be published during the coming summer in two volumes, promises from advance proofs of the illustrations to be artistic as well as very valuable. The first volume will contain a chapter on evolution, from a log illutsrating the sail yacht from its primitive form to its present state. A history of the international races will be contained. The second volume will include a history of steam yachts, with descriptions of the latest productions in the style of naval architecture. Portraits of yacht club officers and owners of notable craft are being collected for the work, which it is said will contain in all 2,000 engravings.

From Pickands, Mather & Co., Cleveland, O., the REVIEW receives a copy of "A B C of Iron," by Chas. W. Sisson. It contains valuable information of different grades of pig iron, iron ore statistics, and a chapter from J. N. Swank's "History of Iron in All Ages." The entire work is of general interest, and of practical value to any one in the iron business.

Personal Mention.

Capt. Jefferson Williams, whose death is announced from Marine City, was part owner of the schooners Joseph Paige and Troy, and was master of the latter boat last season.

Mr. J. C. Chandler, one of the salesmen connected with the firm of Pickands, Mather & Co., Cleveland, is about to accept a position with the Cleveland Ice & Refrigerating Company.

John J. Keeley, who has for several years been in charge of the Big Four railway company's docks in Cleveland under Freight Agent Campbell, is now with the Cleveland & Canton company.

The steel steam yacht Comanche of Cleveland, with Hon. Wm. C. Whitney, Col. O. H. Payne and the owner, Mr. H. M. Hanna, aboard, was in the port of Nassau, capital of the Bahama islands, last week. The cruise will be continued to the south side of Cuba and thence among the Windward islands as far as Trinidad.

Launch of the City of Alpena.

The steamer City of Alpena, one of the side-wheel passenger steamers building at the Wyandotte yard of the Detroit Dry Dock Company for the Detroit and Cleveland Steam Navigation Company, was launched very quietly on Tuesday afternoon. These boats, being built at a cost of about $300,000 each and intended for service between Detroit and Mackinaw, embody a number of improvements over the two big steamers on the line between Cleveland and Detroit, but in general outward appearance will not differ materially from the steamer shown in the supplemental engraving accompanying this issue of the REVIEW.

The dimensions of the new City of Alpena are: Length of keel, 266 feet; over all, 280 feet; breadth of hull, 38½ feet; breadth of beam, over all, 70 feet; moulded depth, 15 feet. The hull is of steel, divided into water-tight compartments by steel bulkheads. The machinery is a low pressure compound vertical beam engine of 3,000 horse power. The low pressure cylinder is 66 inches and the high pressure 42 inches bore by 11 feet stroke. The boilers are forward of the machinery, and are fitted with Howden's forced draft. There will be but one large smoke stack.

The boat will have one rudder at the bow and another at the stern, and she will be the first vessel on the lakes, aside from the car ferries, to adopt this innovation. The bow rudder is situated at the forefoot. It is set into the hull and is a part of the stem, its shape continuing the lines. It rests in a pintle, and when the vessel is steadily forging ahead it is locked in place, making it immovable. In making landings this rudder is found invaluable.

There will be 150 staterooms. The cabins will be furnished in mahogany, the decorations of the main saloon being carried out in Louis XV. style.

Committee on Valuations and Ratings.

At a meeting of the executive committee of the Inland Lloyds in Detroit, Tuesday, Captains Daniel McLeod, George McLeod and James Millen were appointed a committee to pass upon the reports of sub-inspectors as to ratings and valuations for the new register. It is expected that all vessel owners will pay the inspection fees of 1 cent a ton for wooden vessels and 1½ cents a ton for steel vessels.

Trade Notes.

J. B. Carr & Co., Troy, N. Y., furnished the chain for the new Herreshoff cup defender. This company also furnishes chain to a number of concerns on the lakes.

In addition to other large shipments, Thos. Drein & Son, Wilmington, Del., will ship the following for an exhibit at the world's fair: A 22-foot metallic life-boat; 20-foot square stern metallic life-boat; ocean, lake bay, river and sound life rafts, cork life preservers and cork rings.

Owners and builders will be glad to know that graphite paint, unaffected by acids, gases or other chemicals, can be obtained in black, dark red or brown colors. For hulls it is unsurpassed, and on smoke-stacks it is the only paint that will not crack. W. W. Lawrence & Co., Pittsburgh, will give prices and information.

A letter from the Roberts Safety Water Tube Boiler Company says: "Our business has increased 50 per cent. over last year, and it is double that of two years ago, and all of it has been secured through newspaper advertising or from people who have seen our boilers in operation. Our works are running night and day." This company, which has offices at 18 Cortland street, New York, and Red Bank, N. J., has just recorded its 516th order.

An order for a dozen O'Connell greasers has just been placed with the Wadhams Oil and Grease Company of Milwaukee by F. W. Wheeler & Co. of West Bay City, Mich. These lubricators will be used on some new steamers just being finished by the Wheeler company. The Wadhams company is now the sole manufacturer of this greaser, having purchased the right from O'Connell & Cahill.

Around the Lakes.

The new steamer building at Wyandotte for the Western Transit Company will be named the Mohawk.

By again chartering the steamers Cuba, Florida and Wyoming, the Lackawanna line will have the same number of vessels as it had last year.

Additional sales: Schooner John Breden, A. W. Comstock of Alpena to Mrs. Allie Westbrook of Detroit, $4,000; schooner Iris, B. L. Anderson of Milwaukee to Capt. Hans Peterson, $1,100.

Pickands, Mather & Co., of Cleveland, who have thrown up their lease of the old Central blast furnace, are considering the question of purchasing a new site and erecting a modern furnace of about 250 tons capacity.

Mr. O. C. Pinney, who was special deputy in the office of the collector of customs, Cleveland, and later in the law office of Harvey D. Goulder, will on March 20 open a law office at Nos. 521 and 522 Perry Payne building.

If the American Steel Barge Company succeeds in establishing, as reported, an engine building plant, boiler works and a second dry dock at Superior during the coming summer, there will be some active ship building operations at the head of the lakes before another season of navigation is at an end.

It is expected that the keel for the steel steamer to be built on stock account by the Detroit Dry Dock Company will be put down after the next launch at the Wyandotte yard. Repairs on the steamer Progress are almost finished and she will leave the dry dock at Detroit early next week.

Merida is the name assigned to the steel steamer building at F. W. Wheeler & Co.'s yard, West Bay City, for D. C. Whitney of Detroit. Capt. Frank Brown, David Wallace and other owners of the steel steamer Vega, being built by the Globe Iron Works Company, Cleveland. will form a joint stock company to be known as the Vega Transportation Company.

Although not large, the furnace plant built up at Buffalo from the works of the old Union Iron Company and controlled by M. A. Hanna & Co. of Cleveland, is modern in equipment. Ore will be taken direct from vessels by hoists of the McMyler type, which are worked in connection with conveyors carrying the ore buckets to the stock house and to the top of the cupola. The furnace has a capacity of 250 to 300 tons of foundry iron a day.

During a recent trip to England Capt. David Vance, of David Vance & Co., Milwaukee, is understood to have secured an understanding with the Commercial Union Assurance Company of London whereby a settlement will be made shortly of the famous Armour-Marion collision case, on terms satisfactory to all concerned. Capt. Vance is decidedly favorable to the policy of settling losses without resorting to the courts. The settlement of the Brazil-Mather collision case is also nearing a conclusion.

The Racine Dredging Company has let a contract for a powerful new tug. The hull will be built by Heath at Benton Harbor, Mich., the engine by the Sheriffs Manufacturing Company of Milwaukee and the boiler at the Manitowoc Boiler Works. The hull will have an over-all length of 75 feet, 18 feet beam and 9 feet hold; the engine will be an 18x24; the boiler 7 feet in diameter by 12 feet long, to carry 140 pounds of steam. Fitzsimmons, Connell & Co., Chicago dredging contractors, are also having a tug built by Heath of Benton Harbor.

Ex-Mayor James Beatty of Montreal is at the head of a stock company capitalized at $1,000,000, that proposes to put a line of passenger boats on Lake Ontario and the St. Lawrence, between Toronto and Montreal, to compete with the Richelieu and Ontario Navigation Company. The steamers Monroe, Milton and Alger are said to have been secured for the coming season and it is claimed that four new boats of 300 feet length and three decks will be built, two of them in Toronto.

The fleet of tugs and barges of the Peshtigo Lumber Company of Chicago lately transferred, with other property, to the Stevenson-Wells interest was placed at $50,000. The towing steamer Boscobel was put in at $16,000, and the barge Peshtigo at the same figure. The Boscobel cost originally $45,000 and was put on the line in 1881. The entire fleet numbers seven boats and will hereafter run under the ownership and control of the Stevenson Transportation Company.

Do You Want a Photograph of Your Steamer?

To accommodate subscribers who are anxious to secure photographs of lake steamers in which they are in any way interested the MARINE REVIEW has made a collection and is able to furnish 7x9 photographs, well mounted, of the following steamers at $1 each. Write to the MARINE REVIEW, 516 Perry-Payne building, Cleveland, O.:

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Albany,	Hurd, Jos. L.,	Prince, F. H.,
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Argonaut,	Indiana,	Pathfinder (whaleback),
Boyce. Mary H.,	Ionia,	Panther,
Boscobel,	Juniata,	Pillsbury (engines),
Baldwin, S. C.,	James, H. R.,	Pontiac,
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Chemung,	Maryland,	Schuyikill,
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City of Traverse,	Minnesota,	Tacoma,
City of Paris,	Manhattan,	Tuscarora,
Codorus,	Massachusetts,	Thomson, A.D., (whaleb'k)
Donaldson, Jas. P.,	Marshall, Sam'l,	Tioga,
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Egan, W. M.,	Milwaukee,	Viking,
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A PUBLIC MEETING OF THE BOARD OF Engineer Officers designated by Special Orders No. 7, Headquarters Corps of Engineers, in accordance with joint resolution of Congress, approved February 3, 1893, directing the Secretary of War to investigate the subject of rail towing on the great lakes and their connecting waters, will be held at the U. S. Engineer Office, 34 West Congress street, Detroit, Mich., at 10 a. m., April 6, 1893. All persons interested are invited to present their views in regard to the matter in writing, in duplicate, either in person or by mail. 9-16-23-30

PROPOSALS FOR DREDGING. U. S. Engineer Office, Hickox Building, 185 Euclid Ave., Cleveland, Ohio, February 26, 1893. Sealed proposals for dredging in harbors at Cleveland, Fairport and Ashtabula, Ohio, will be received at this office until 2 o'clock p m., standard time, of Tuesday, March 28, 1893, and then publicly opened Specifications, blank forms, and all available information will be furnished on application to this office. JARED A, SMITH, Lieut. Col. Corps of Engineers, U. S. A. 9-16-23

UNITED STATES ENGINEER OFFICE, Hickox Building, 185 Euclid Avenue, Cleveland, Ohio, February 26th, 1893. Sealed proposals for extension of piers, improving harbor at Huron, Ohio, will be received at this office until 2 o'clock, P. M., standard time, of Tuesday, March 28, 1893, and then publicly opened. Specifications, blank forms, and all available information will be furnished on application to this office. JARED A. SMITH, Corps of Engineers, U. S. A. 2-9-16

UNITED STATES ENGINEERS OFFICE, Hickox Building, 185 Euclid Avenue, Cleveland, Ohio, February 26, 1893. Sealed proposals for dredging in Sandusky River, and at the harbors at Port Clinton, Huron and mouth of Black River, Ohio, will be received at this office until 2 o'clock. P. M., standard time, of Tuesday, March 28, 1893, and then publicly opened. Specifications, blank forms and all available information will be furnished on application to this office. JARED A. SMITH, Corps of Engineers, U. S. A. 2-9-16

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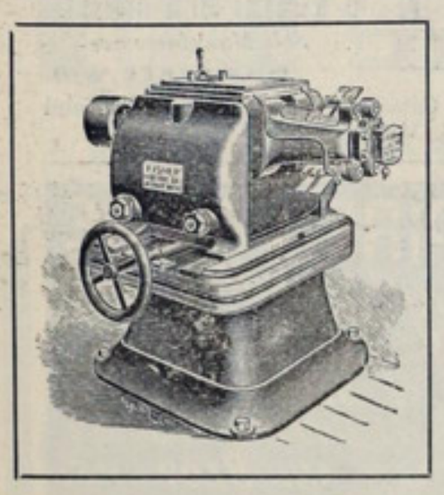

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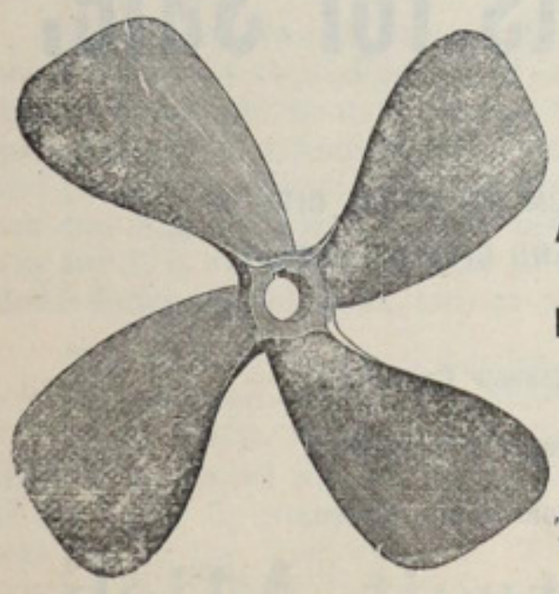

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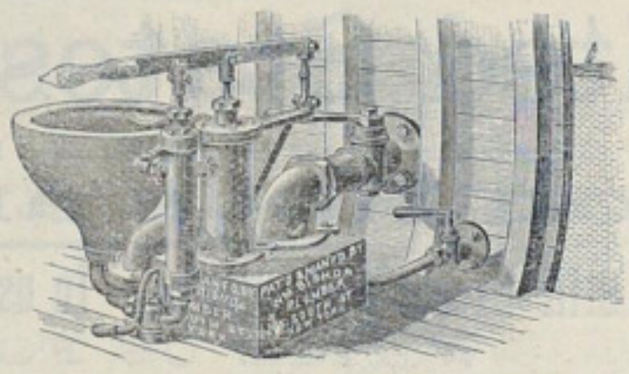

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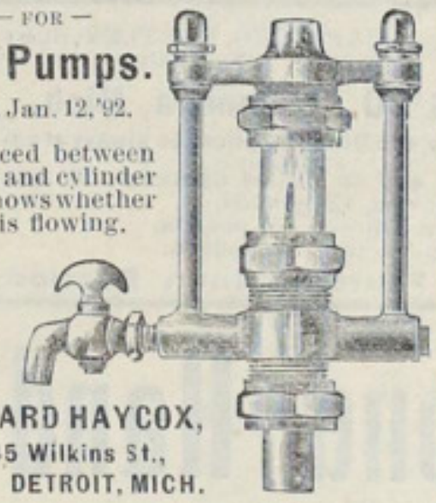

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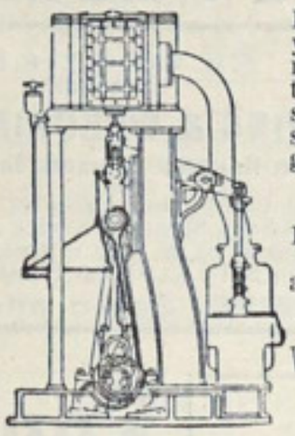

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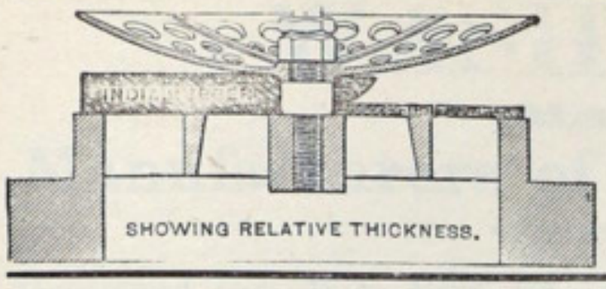

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UNITED STATES ENGINEER OFFICE, 34 West Congress Street, Detroit, Mich., March 18, 1893. Sealed proposals for turbine power plant for the 800-foot lock, St. Mary's Falls Canal, Mich., will be received at this office until 2 p.m May 2, 1893, and then publicly opened. Specifications, blank forms, and all available information will be furnished on application to this office. O. M. POE, Colonel, Corps of Engineers, Bvt. Brig.-Gen. U. S. A. 23-30-6-13

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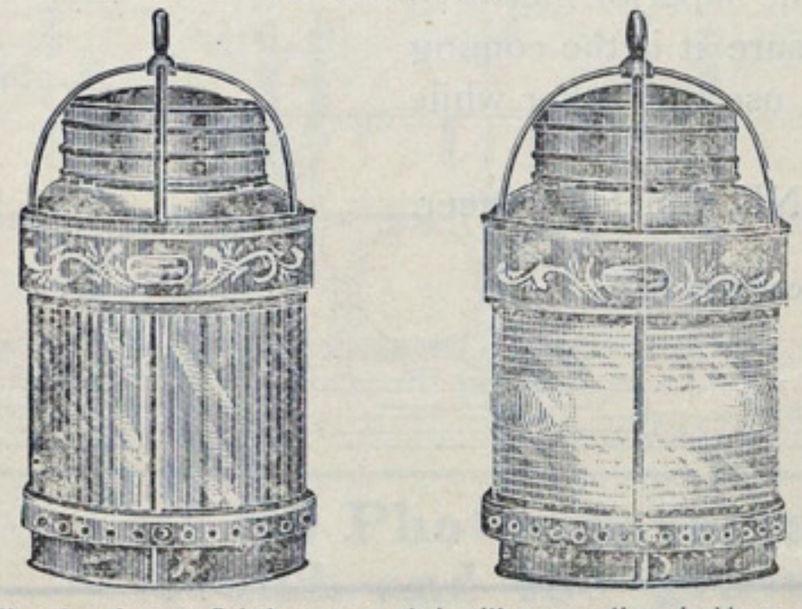

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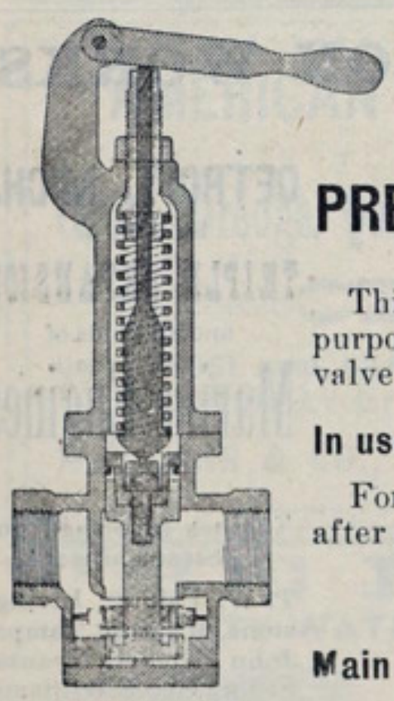

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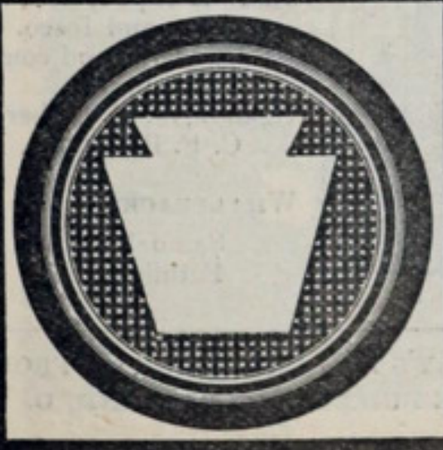

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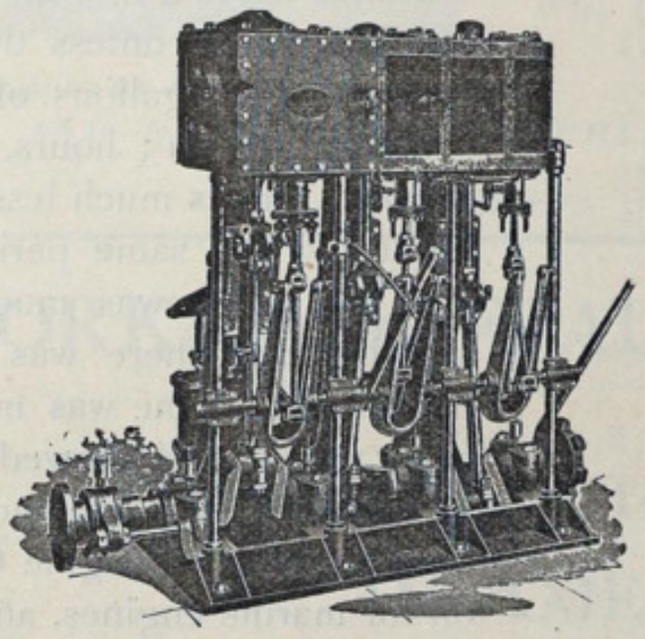

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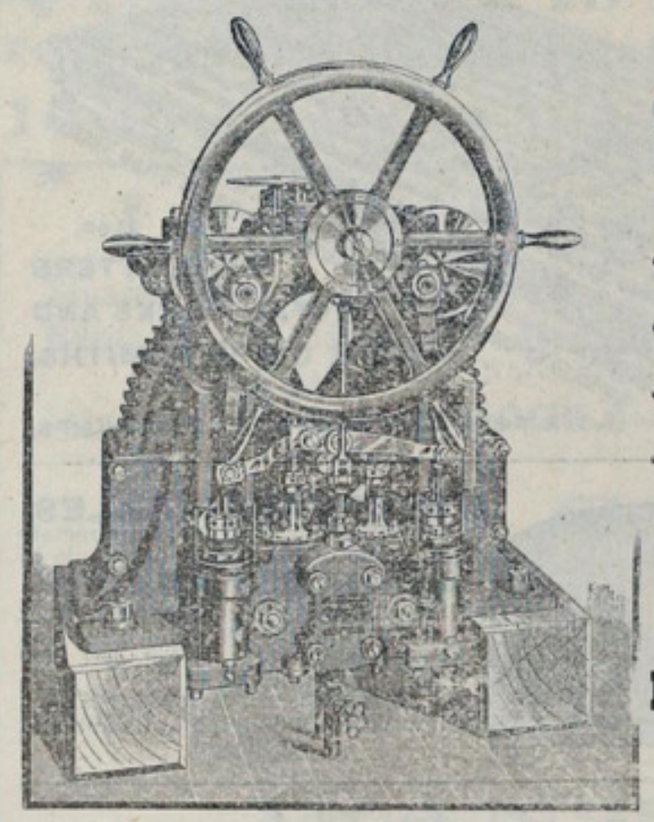

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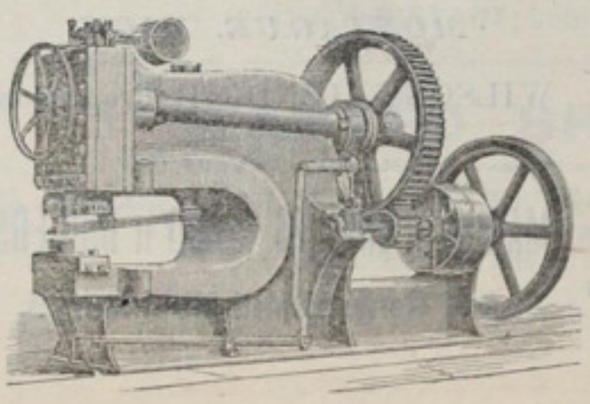

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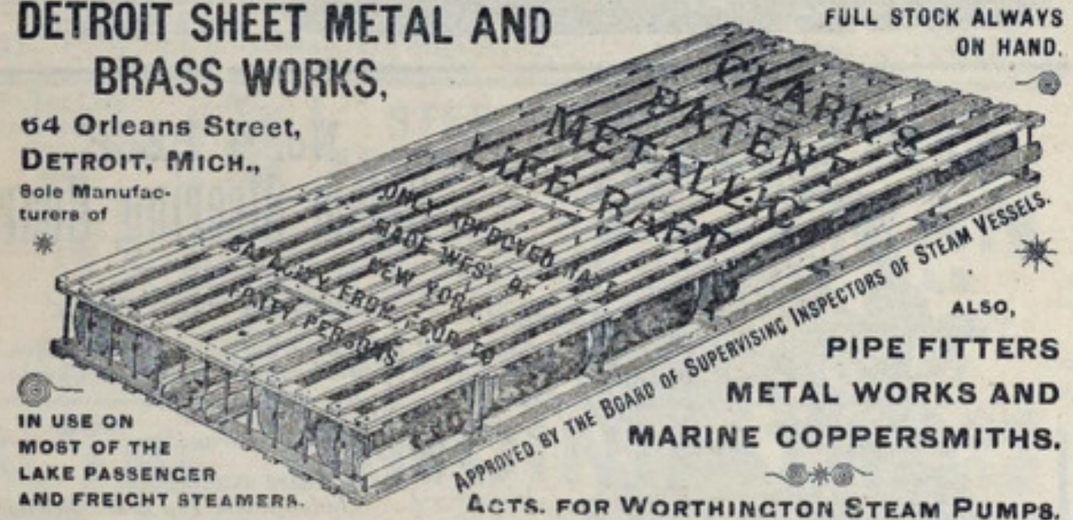
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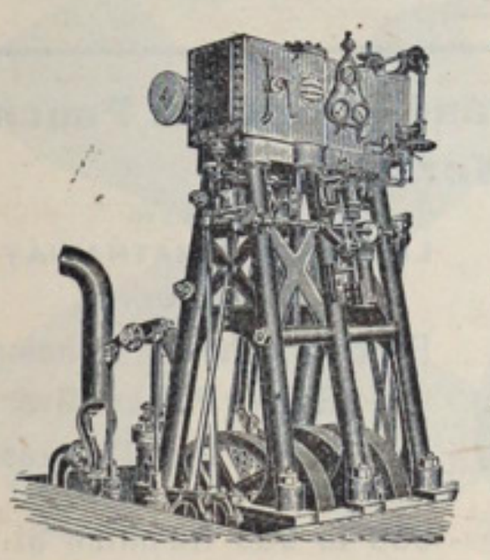

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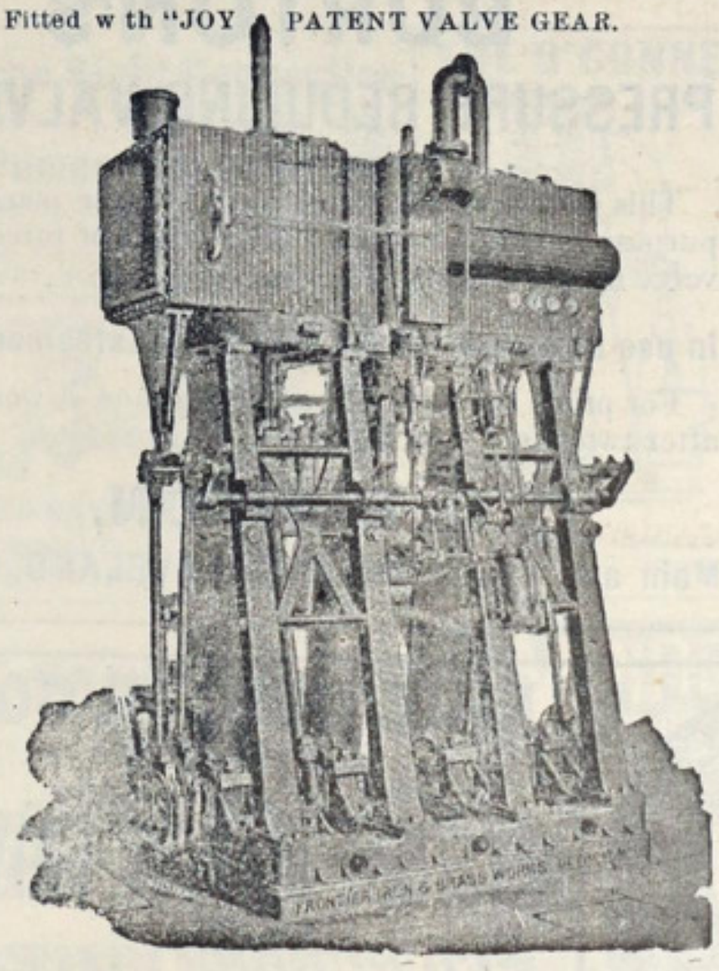

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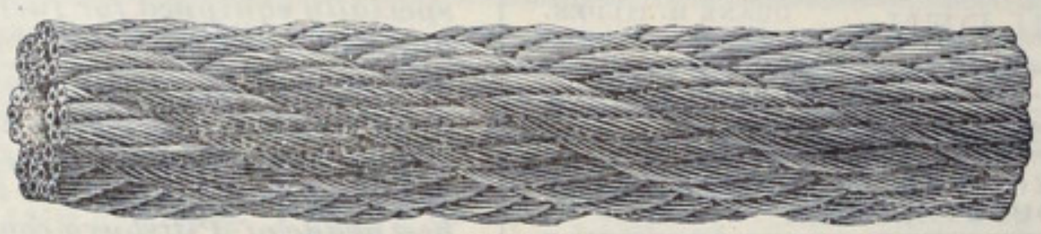

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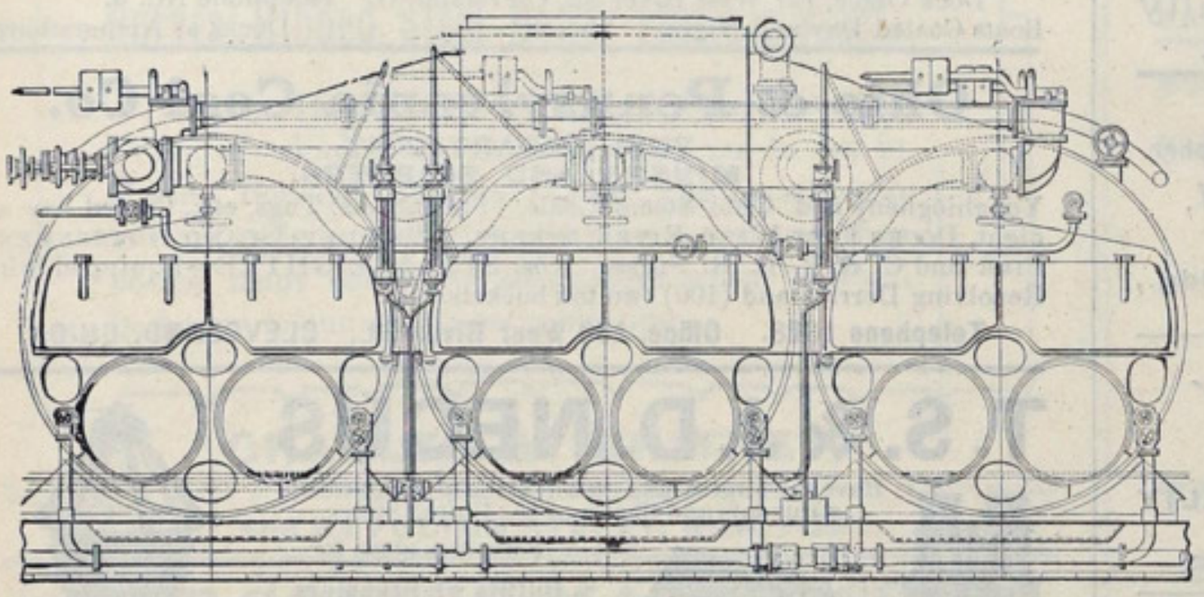

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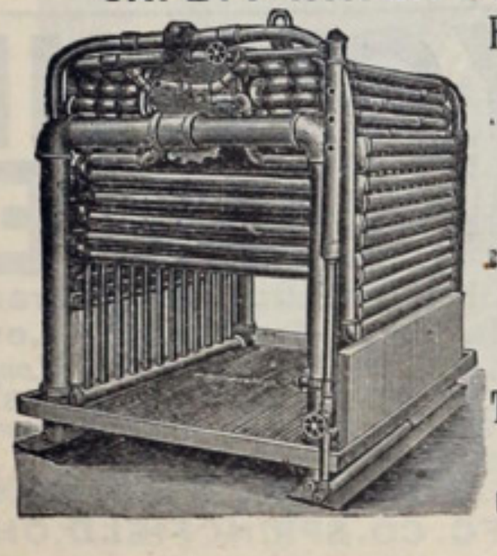

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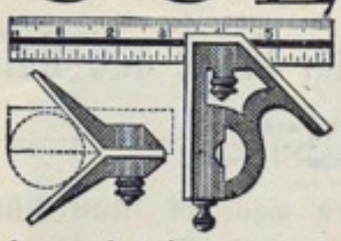

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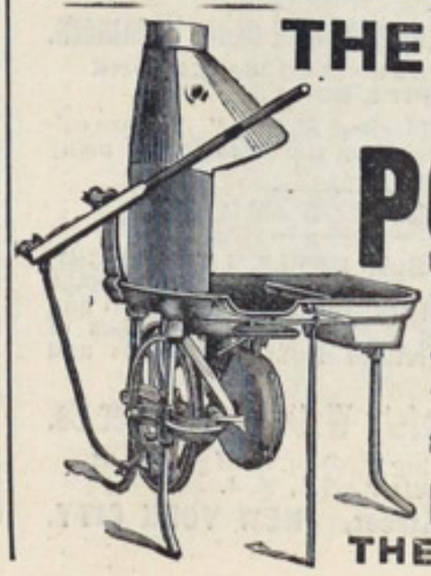

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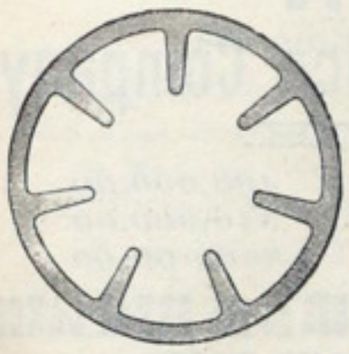

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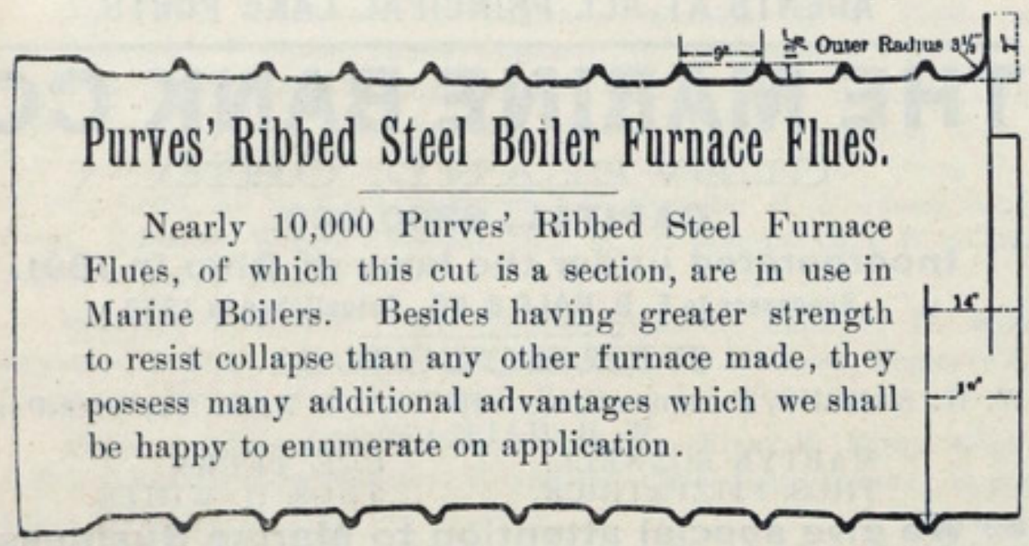

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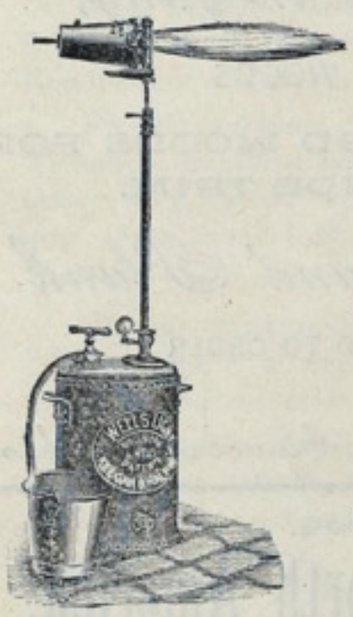

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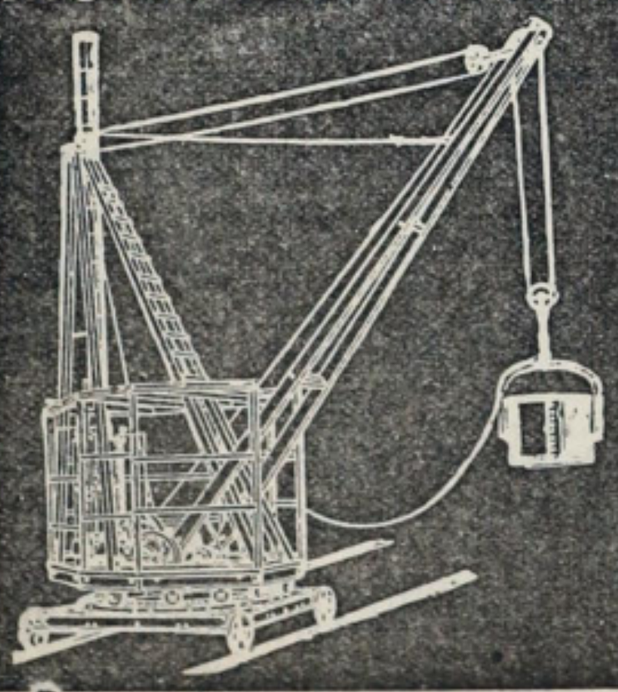

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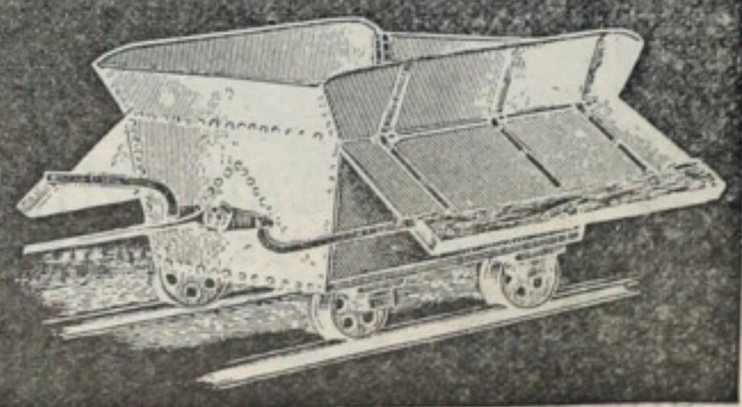

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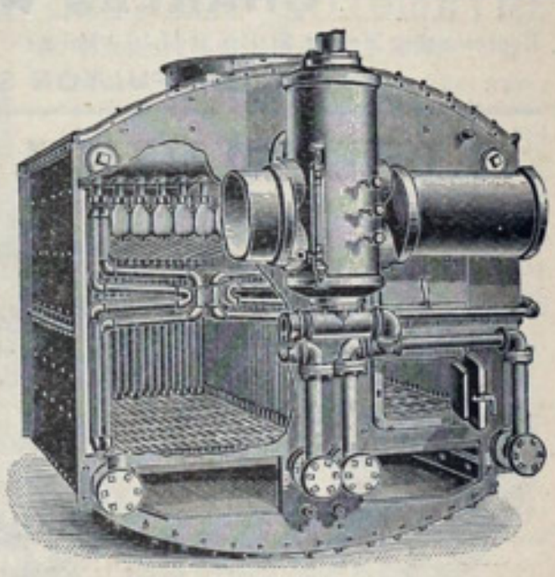

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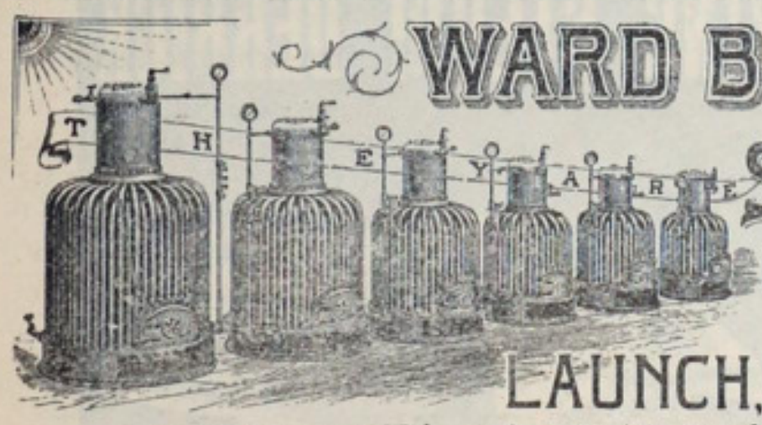

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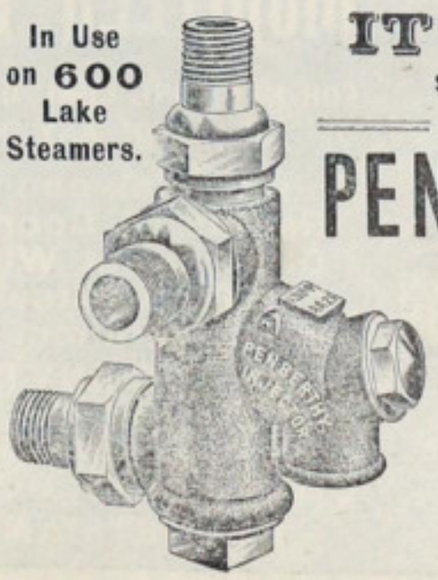

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